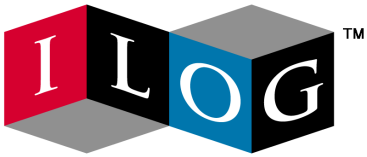

ILOG License Manager 2.6

User's Guide & Reference

Revision B - April 2001

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Getting Started Quickly

ILOG products are protected by the ILOG License Manager (ILM). Before you can use the product you have installed, you need to set up ILM access keys. This chapter explains how to do this step-by-step for different platforms. More specifically:

- See the section "Installing Access Keys on Unix" on page 6 for instructions on how to install ILM access keys on Unix.
- See the section "Installing Access Keys on Windows" on page 21 for instructions on how to install ILM access keys on Windows.
- If you encounter problems when installing or using access keys, go to the section "Troubleshooting" on page 57.

Installing Access Keys on Unix

This section explains how to install the ILOG License Manager on Unix, according to the key type provided.

Installation Directory

We assume that your ILOG product and ILM have already been installed on your system. If it is not the case, follow the instructions located in the CD-ROM jacket or on your specific installation sheet.

For convenience, we will assume that the ILOG installation directory is `/usr/ilog`. If this is not the case, please replace subsequent references to `/usr/ilog` in this document with the actual installation directory.

Access Keys

To run an ILOG product, you need an *access key* for this product.

ILOG is in charge of delivering you this access key. Either you have already received it, or you need to send ILOG some information to get it; e.g., you may have to fill in an access key request form (either a paper form or a Web page).

An access key, or *key* for short, is a line of text containing user information about the product and its conditions of use, plus a password which validates this information. Here is an example of an access key:

```
TOKEN    Views  2.400  NEVER  87SDFSDF7687  10  sun4 , license : 186
```

There are different types of keys, all of which are detailed in this guide. You should refer to the specific section of this guide relating to your key type. Key types can either be **TOKEN**, **EVAL**, **NODE**, **RNODE**, **RUNTIME**, or **SITE**. If you already have received your access key, its type appears as the first word on the line. In the example above, the key type is TOKEN. If you have to fill in an access key request form, this form tells you which type of key you will get in return.

License File

In general, access keys are placed in the file `/usr/ilog/ilm/access.ilm`. This file is called the *license file*. When you start an ILOG product, it looks in the license file for an appropriate key; if no appropriate key is found, you are not allowed to run the product.

Basically, this chapter explains how to get your access key from ILOG, if it is not already provided with your shipment, and put it in your license file. To do this, you will need permission to create or modify the license file. When editing the license file, you must know that:

- The file must have exactly one line beginning with “LICENSE”.
- The file must have at most one line beginning with “SERVER”.
- Case is significant.
- Access keys must start at the first column; no blanks are allowed before the key.
- There must be no empty or blank lines.
- The last line must end with a newline character.
- Comment lines have a “#” in the first column.

Where to Go from Here?

- If your key type is **EVAL**, please read “Installing an Evaluation Key” on page 8.
- If your key type is **TOKEN**, please read “Installing a Token Key” on page 10.
- If your key type is **NODE**, please read “Installing a Node Key” on page 15.
- If your key type is **RTNODE**, please read “Installing a Node Runtime Key” on page 17.
- If your key type is **SITE**, please read “Installing a Site Key” on page 19.
- If your key type is **RUNTIME**, please read “Installing a Runtime Key” on page 41.

Installing an Evaluation Key

This section describes the steps required to install an evaluation key. An evaluation key lets you use a product on any machine until a given expiration date. For instance:

```
EVAL Views 4.000 01-May-2001 SZU3C1SM45C2 any , license: 186
```

The date—May 1, 2001, in the example—is the expiration date for the evaluation.

Step 1. Create or Edit the License File

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your ILOG sales representative.

Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product, delete or comment out the line with the old key; to comment out a line, put a "`#`" in the first column.

Step 2. Set Up the Environment

To use ILOG products, the shell variable `ILOG_LICENSE_FILE` must be set to the absolute path of the license file. To do this, execute the following shell commands:

- If you're using `sh` or one of its derivatives, such as `ksh` or `bash`:

  ```
  $ ILOG_LICENSE_FILE=/usr/ilog/ilm/access.ilm
  $ export ILOG_LICENSE_FILE
  ```

- If you're using `csh` or one of its derivatives, such as `tcsh`:

  ```
  $ setenv ILOG_LICENSE_FILE /usr/ilog/ilm/access.ilm
  ```

This can be automated by putting these commands in your shell startup file. This should be done for every ILOG user at your site.

Step 3. Check the License File

To make sure that the license file has no syntax errors and that the variable `ILOG_LICENSE_FILE` is properly set, type:

```
$ /usr/ilog/ilm/ilmcheck
```

This command should issue the message:

```
Checking license file "/usr/ilog/ilm/access.ilm"
     License file "/usr/ilog/ilm/access.ilm" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Remember that every ILOG user at your site should set the `ILOG_LICENSE_FILE` variable as explained in Step 2.

Installing a Token Key

This section describes the steps to install a token key. A token key lets you use a product on a set of machines connected to a network, or on a stand-alone machine. A token key specifies the number of tokens granted, which is the maximum number of simultaneous developers, unless the product documentation says otherwise (for example, in ILOG Server 4.1, the number of tokens is the maximum number of simultaneous connections).

For more information on token counting, see the section "Token Counting" on page 51.

To be able to grant you a token key, ILOG needs some information on a selected machine of your network. That's why your shipment may not already contain your token key. Steps 1 to 3 explain how to contact ILOG, provide the required information, and get your token key back.

On the other hand, if ILOG already has the required information, your shipment may already include a sheet labelled *Access Key*, which contains your token key. In this case, you don't have to follow Steps 1 to 5, and you can skip to Step 6.

> ***Note:*** *For an easy start up, all ILOG products are shipped with a temporary evaluation license on a separate sheet. If you want to start using this product immediately, and take care of your token license later, see the section* "Installing an Evaluation Key" on page 8. *But don't forget to order your license key quickly!*

Step 1. Choose the Client Using the Token

There are two kinds of tokens:

- Floating tokens. These tokens let you use the product on any machine of your network. If you have purchased such a token, skip steps 1 and 2.
- Fixed tokens. Such tokens let you use the product on one machine only. This machine is called the token client host. Choose which machine will be the token client host. If you have purchased several fixed tokens, you must repeat the token installation procedure for each machine.

Step 2. Get the Token Client Hostid

Log on to the token client host, and execute the command `/usr/ilog/ilm/ihostid`.

This command displays the hostname, hostid, and hostid checksum of your machine.

Here is an example:

```
The hostname of this machine is helios
The hostid of this machine is   6430bd3b
The checksum of this hostid is  03933
```

Step 3. Choose a Host to Run the Token Server

Token keys are managed by an ILM process called the token server. Token keys can only be used if there is a token server running on your network.

First of all, identify the machine on which you will run the token server. This can be any machine on your local network running the operating system corresponding to the product CD-ROM you received. If there is already a token server running on some machine, identify this machine. Otherwise, you must choose one. Try to choose a stable machine—a file server is a common choice. In the rest of this section, the machine you have selected will be called the *token server host*.

The token server host can also be the token client host, typically if you have purchased only one fixed token.

You do not need to be root to run the token server.

Step 4. Get the Token Server Hostid

Log on to the token server host and execute the following command:

```
$ /usr/ilog/ilm/ihostid
```

This command displays the hostname, hostid and hostid checksum of the machine. An example output would be:

```
The hostname of this machine is    helios
The hostid of this machine is      6430bd3b
The checksum of this hostid is     03933
```

Step 5. Get the Token Key from ILOG

The information displayed by the `ihostid` command must be sent to ILOG to get your token key. To do so, follow the instructions in the *Access Key Request* form.

Step 6. Add the Token Key to the License File

You should do this step once you have received your token key from ILOG. Here is an example of the text you may have received:

```
LICENSE Springfield Computing Inc.
SERVER  3000 helios 6430bd3b 03933
TOKEN   Views     2.400 NEVER    918MK37CCG52 3  sun4 , license: 186
```

The `LICENSE` and `SERVER` lines identify your site and token server host. The next line contains the token key. If you have purchased licenses for several products or product components, the text you received may actually contain several token keys.

If the license file does not exist, create one by saving the whole text you received as the license file.

If the license file exists, edit it using your favorite editor. The license file is in `/usr/ilog/ilm/access.ilm`. To do so:

1. Make sure that the LICENSE and SERVER lines are consistent. If one or both of them are not in the license file, insert whichever ones are missing at the beginning of the file. If any of them are present, check that they are identical to the ones you received from ILOG. If they are not, there is a problem. In this case, contact your ILOG sales representative.
2. Append the new key or keys (i.e., the lines after the SERVER line) to the end of the file. If you are replacing an old key with a new one for the same product on the same machine, delete or comment out the line with the old key; to comment out a line, put a "#" in the first column.

Step 7. Set Up the Environment

The shell variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `access.ilm` file. To do this, execute one of the following shell commands:

- If you're using `sh` or one of its derivatives, such as `ksh` or `bash`:

```
$ ILOG_LICENSE_FILE=/usr/ilog/ilm/access.ilm
$ export ILOG_LICENSE_FILE
```

- If you're using `csh` or one of its derivatives, such as `tcsh`:

```
$ setenv ILOG_LICENSE_FILE /usr/ilog/ilm/access.ilm
```

This can be automated by putting these commands in your shell startup file. This should be done for every ILOG user at your site.

Step 8. Check the License File

To check that the license file has no syntax errors and that the variable `ILOG_LICENSE_FILE` is properly set, type:

```
$ /usr/ilog/ilm/ilmcheck
```

This command should issue the message:

```
Checking license file "/usr/ilog/ilm/access.ilm"
     License file "/usr/ilog/ilm/access.ilm" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

> ***Note:*** *The client station must have a copy or a link to the file* `access.ilm`.

Step 9. Kill the Previous Token Server Process

If there is already a running ILM server process, you must kill it. Log on to the token server host and get the process id of the server by typing one of the two lines below at the shell:

- If you're using a BSD derived system, such as SunOS 4.1.x:

```
$ ps -awx | grep ilmd | grep -v grep
```

- If you're using a System V derived system, such as Solaris 2.x or HP/UX:

```
$ ps -e | grep ilmd | grep -v grep
```

If there is no running server process, this command will issue no output. Otherwise, it will display a line starting with the server process id; kill this process by typing a command like:

```
$ kill -15 process-id
```

Step 10. Start the Token Server

Log on to the token server host. To start the token server as a background process, execute one of the following shell commands:

- If you're using `sh` or one of its derivatives, type:

```
$ /usr/ilog/ilm/ilmd >> /usr/ilog/ilm/ilm.log 2>&1 &
```

- If you're using `csh` or one of its derivatives, type:

```
$ /usr/ilog/ilm/ilmd >>& /usr/ilog/ilm/ilm.log &
```

A typical output of this command in the `ilmd` log file is:

```
Apr 24 15:16:59 License Manager v2.6 [pid 28934]
Apr 24 15:16:59 Using license file "/usr/ilog/ilm/access.ilm"
Apr 24 15:16:59 Licensed to "Springfield Computing Inc."
Apr 24 15:16:59 Tokens for Views on jupiter: 3 pcwinnt
Apr 24 15:16:59 Tokens for Solver: 4 any
```

Each time the token server machine is rebooted, the server process must be restarted. This can be done automatically by adding the commands below to the shell script which is executed when the system reboots:

```
if [ -x /usr/ilog/ilm/ilmd ]
then
  echo "Starting the ILOG Token Server"
  ILOG_LICENSE_FILE=/usr/ilog/ilm/access.ilm
  export ILOG_LICENSE_FILE
  /usr/ilog/ilm/ilmd >> /usr/ilog/ilm/ilm.log 2>&1 &
fi
```

Typically, the reboot script is `/etc/rc.local` or `/etc/rc`. If neither of these files exists on your system, contact your system administrator for more information.

> ***Note:*** *On Hp/UX, the ilmd command invocation in* `/etc/rc` *must be preceded by* `nohup`*:*
> `nohup /usr/ilog/ilm/ilmd >> ...`

Step 11. Check the Token Server and the Available Tokens

The command `ilmlist` will display the server status and the number of available tokens, as well as tokens checked out and queued by users:

```
$ /usr/ilog/ilm/ilmlist
```

A typical output of this command would be:

```
Ilmlist v2.60
License file "/usr/ilog/ilm/access.ilm"
Token server on "asbm01" is UP.

* PRODUCT Server:10 solaris
tokens in use: 5 on solaris
available tokens: 3

USER     HOSTNAMEPID    PLATFORM IN USE SINCE    USAGE
ServUser sol12   31990  solaris  May 22 09:36:40 192.127.05.3121.6
ServUser sol12   31990  solaris  May 22 10:00:30 192.127.05.3121.7
ServUser sol12   31990  solaris  May 22 10:06:34 192.127.05.3121.9
ServUser sol12   31990  solaris  May 22 10:10:55 192.127.05.3121.10
ServUser sol12   31990  solaris  May 22 10:15:23 192.127.05.3121.11
```

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Remember that every ILOG user at your site should set the `ILOG_LICENSE_FILE` environment variable as explained in Step 5.

Installing a Node Key

This section describes the steps to install a node key. A node key lets you use a product on a specific machine.

To be able to provide you with a node key, ILOG needs some information about the machine on which you want to use the product. That's why your shipment may not already contain your node key. Steps 1 and 2 explain how to contact ILOG, provide the required information, and get your node key back.

On the other hand, if ILOG already has the required information, your shipment may already include a sheet labelled *Access Key* which contains your node key. In this case, you don't have to follow Steps 1 and 2, and you can skip to Step 3.

> ***Tip:*** *For an easy start up, all ILOG products are sent with a temporary evaluation license on a separate sheet. If you want to start using this product immediately, and take care of your node license later, see the section* "Installing an Evaluation Key" on page 8*. But don't forget to order your license key quickly!*

If you have purchased node keys for different machines, please follow the steps in this section for each machine in turn.

Step 1. Get Your Computer Hostid

Log on to the machine where you want to run the ILOG products.

Then, execute the following command:

```
$ /usr/ilog/ilm/ihostid
```

This command displays the hostname, hostid, and hostid checksum of the machine. An example output would be:

```
The hostname of this machine is    helios
The hostid of this machine is      6430bd3b
The checksum of this hostid is     03933
```

Step 2. Get the Node Key from ILOG

The information displayed by the `ihostid` command must be sent to ILOG to get your node key. To do so, follow the instructions in the *Access Key Request* form.

Step 3. Add the Node Key to the License File

You should do this step once you have received your node key from ILOG. Here is an example of what you may have received:

```
LICENSE Springfield Computing Inc.
NODE  Views  2.400  NEVER   4RYE61MP4HJ7 1d3c7a9c sun4 , license: 186
```

The LICENSE line identifies your site. The next line contains the node key. If you have purchased licenses for several products, product components, or machines, the text you received may actually contain several node keys.

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a LICENSE line identical to the one you received. If it is not the case, contact your ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product on the same machine, delete or comment out the line with the old key; to comment out a line, put a "#" in the first column.

Step 4. Set Up the Environment

To use ILOG products, the shell variable ILOG_LICENSE_FILE must be set to the absolute path of the access.ilm file. To do this, execute one of the following shell commands:

- If you're using sh or one of its derivatives, such as ksh or bash:

```
$ ILOG_LICENSE_FILE=/usr/ilog/ilm/access.ilm
$ export ILOG_LICENSE_FILE
```

- If you're using csh or one of its derivatives, such as tcsh:

```
$ setenv ILOG_LICENSE_FILE /usr/ilog/ilm/access.ilm
```

This can be automated by putting the above commands in your shell startup file — either .profile if you're using sh, or .login file if you're using csh. This should be done for every ILOG user at your site.

Step 5. Check the License File

To check that the license file has no syntax errors and that the variable ILOG_LICENSE_FILE is properly set, type:

```
$ /usr/ilog/ilm/ilmcheck
```

This command should issue the message:

```
Checking license file "/usr/ilog/ilm/access.ilm"
     License file "/usr/ilog/ilm/access.ilm" is correct
```

Otherwise, something is wrong with the license file or with the setting of ILOG_LICENSE_FILE. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing a Node Runtime Key

This section describes the steps to install a node runtime key. A node runtime key lets you use an application using an ILOG product on a specific machine.

To be able to provide you with a node runtime key, ILOG needs some information about the machine on which you want to use the product. That's why your shipment may not already contain your node runtime key. Steps 1 and 2 explain how to contact ILOG, provide the required information, and get your node runtime key back.

On the other hand, if ILOG already has the required information, your shipment may already include a sheet labelled *Access Key* which contains your node runtime key. In this case, you don't have to follow Steps 1 and 2, and you can skip to Step 3.

If you have purchased node runtime keys for different machines, please follow the steps in this section for each machine in turn.

Step 1. Get Your Computer Hostid

Log on to the machine where you want to run the ILOG products.

Then, execute the following command:

```
$ /usr/ilog/ilm/ihostid
```

This command displays the hostname, hostid, and hostid checksum of the machine. An example output would be:

```
The hostname of this machine is    helios
The hostid of this machine is      6430bd3b
The checksum of this hostid is     03933
```

Step 2. Get the Node Runtime Key from ILOG

The information displayed by the `ihostid` command must be sent to ILOG to get your node runtime key. To do so, follow the instructions in the *Access Key Request* form.

Step 3. Add the Node Runtime Key to the License File

You should do this step once you have received your RTnode key from ILOG. Here is an example of what you may have received:

```
LICENSE Springfield Computing Inc.
RTNODE  Views 2.400 NEVER   4RYE61MP4HJ7 1d3c7a9c sun4 , license: 186
```

The `LICENSE` line identifies your site. The next line contains the node runtime key. If you have purchased licenses for several products, product components, or machines, the text you received may actually contain several node runtime keys.

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your

ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product on the same machine, delete or comment out the line with the old key; to comment out a line, put a "#" in the first column.

Step 4. Set Up the Environment

To use ILOG products, the shell variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `access.ilm` file. To do this, execute one of the following shell commands:

- If you're using `sh` or one of its derivatives, such as `ksh` or `bash`:

```
$ ILOG_LICENSE_FILE=/usr/ilog/ilm/access.ilm
$ export ILOG_LICENSE_FILE
```

- If you're using `csh` or one of its derivatives, such as `tcsh`:

```
$ setenv ILOG_LICENSE_FILE /usr/ilog/ilm/access.ilm
```

This can be automated by putting the above commands in the launch script of your application.

Step 5. Check the License File

To check that the license file has no syntax errors and that the variable `ILOG_LICENSE_FILE` is properly set, type:

```
$ /usr/ilog/ilm/ilmcheck
```

This command should issue the message:

```
Checking license file "/usr/ilog/ilm/access.ilm"
     License file "/usr/ilog/ilm/access.ilm" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing a Site Key

This section describes the steps to install a site key. A site key lets you use a product on any machine of a site, with no restriction on the number of users.

Your shipment includes a form named *Access Key Sheet* which contains a text which looks like:

```
LICENSE Springfield Computing Inc.
SITE   Views     2.400 NEVER    918MK37CCG52 Y solaris , license: 186
```

The `LICENSE` line identifies your site. The next line contains your site key. If you have purchased licenses for several products or product components, the text may actually contain several site keys.

Step 1. Create or Edit the License File

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product, delete or comment out the line with the old key; to comment out a line, put a `"#"` in the first column.

Step 2. Set Up the Environment

To use ILOG products, the shell variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `access.ilm` file. To do this, execute one of the following shell commands:

- If you're using `sh` or one of its derivatives, such as `ksh` or `bash`:

  ```
  $ ILOG_LICENSE_FILE=/usr/ilog/ilm/access.ilm
  $ export ILOG_LICENSE_FILE
  ```

- If you're using `csh` or one of its derivatives, such as `tcsh`:

  ```
  $ setenv ILOG_LICENSE_FILE /usr/ilog/ilm/access.ilm
  ```

This can be automated by putting the above commands in your shell startup file — either `.profile` if you're using `sh`, or `.login` file if you're using `csh`. This should be done for every ILOG user at your site.

Step 3. Check the License File

To check that the license file has no syntax errors and that the variable `ILOG_LICENSE_FILE` is properly set, type:

```
$ /usr/ilog/ilm/ilmcheck
```

This command should issue the following message:

```
Checking license file "/usr/ilog/ilm/access.ilm"
     License file "/usr/ilog/ilm/access.ilm" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing Access Keys on Windows

This section explains how to install the ILOG License Manager on Windows, according to the key type provided.

Installation Directory

We assume that the product and ILM have already been installed on your system. If it is not the case, follow the instructions located in the CD-ROM booklet or on your specific installation sheet.

For convenience, we will assume that ILM is installed in the directory `C:\ILOG\ILM`. If this is not the case, please replace subsequent references to `C:\ILOG\ILM` in this document with the actual installation directory.

Access Keys

To run an ILOG product, you need an *access key* for this product.

ILOG is in charge of delivering you this access key. Either you have already received it, or you need to send ILOG some information to get it; e.g., you may have to fill in an access key request form (either a paper form or a Web page).

An access key, or *key* for short, is a line of text containing user information about the product and its conditions of use, plus a password which validates this information. Here is an example of an access key:

```
NODE  Views  2.400  NEVER  1NNF00A60ACN  421e028a sun4 , license: 186
```

There are different types of keys, all of which are detailed in this guide. You should refer to the specific section of this guide relating to your key type. Key types can either be **TOKEN**, **EVAL**, **NODE**, **RNODE**, **RUNTIME**, or **SITE**. If you already have received your access key, its type appears as the first word on the line. In the example above, the key type is TOKEN. If you have to fill in an access key request form, this form tells you which type of key you will get in return.

License File

In general, access keys are located in the file `C:\ILOG\ILM\ACCESS.ILM`. This file is called the *license file*. When you start an ILOG product, it looks in the license file for an appropriate key; if no appropriate key is found, you are not allowed to run the product.

Basically, this chapter explains how to get your access key from ILOG, if it is not already provided with your shipment, and put it in your license file. When editing the license file, you must know that:

- The file must have exactly one line beginning with “LICENSE”.
- The file must have at most one line beginning with “SERVER”.
- Case is significant.
- Access keys must start at the first column; no blanks are allowed before the key.
- There must be no empty or blank lines.
- Comment lines have a `“#”` in the first column..

> ***Warning:*** *License files must be edited and saved in text format. If you are using Notepad to edit files, this is automatic. If you are using another text editor such as WordPad, you must select the text format option when saving a license file. To check that your file is saved in text format, open an MS-DOS command prompt window and type the following:*
> `TYPE C:\ILOG\ILM\ACCESS.ILM`
> *Also, beware that some editors will automatically append the extension* `.txt` *to your file. Furthermore, Windows Explorer may hide this extension. To determine which is the real extension of the file you created, open an MS-DOS command prompt window ant type the following:*
> `DIR C:\ILOG\ILM`
> *If the extension is wrong, rename your file in that window. For example, type the following:*
> `CD C:\ILOG\ILM`
> `REN access.ilm.txt access.ilm`

Where to Go from Here?

- If your key type is **EVAL**, please read “Installing an Evaluation Key” on page 23.
- If your key type is **TOKEN**, please read “Installing a Token Key” on page 26.
- If your key type is **NODE**, please read “Installing a Node Key” on page 32.
- If your key type is **RTNODE**, please read “Installing a Node Runtime Key” on page 35.
- If your key type is **SITE**, please read “Installing a Site Key” on page 38.
- If your key type is **RUNTIME**, please read “Installing a Runtime Key” on page 41.

Installing an Evaluation Key

This section describes the steps to install an evaluation key. An evaluation key lets you use a product on any machine until an expiration date. For instance:

```
EVAL Views 4.000 01-May-2001 SZU3C1SM45C2 any , license: 186
```

The date—May 1, 2001, in the example—is the expiration date for the evaluation.

Step 1. Create or Edit the License File

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product, delete or comment out the line with the old key; to comment out a line, put a "`#`" in the first column.

Step 2. Set Up the Environment

To use ILOG products, the system variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `ACCESS.ILM` file.

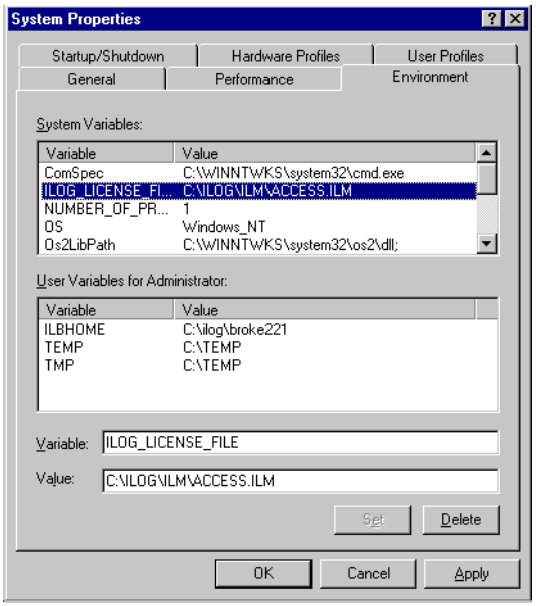
To do this carry out one of the following:

- If you use Windows 95, Windows 98, or Windows Millenium, edit the file `AUTOEXEC.BAT` and add the following line:

  ```
  set ILOG_LICENSE_FILE=C:\ILOG\ILM\ACCESS.ILM
  ```

  To make this change effective, you have to restart your computer.

- If you use Windows NT, you must be logged as an Administrator. Open the Control Panel and double-click on the System icon. In the Environment tab, click somewhere in the System Variables box (for example on the OS). Enter `ILOG_LICENSE_FILE` in the "Variable" text field and enter the correct value in the "Value" field, as shown in the following illustration:



  Click on the "Set" button. This will set a new System Variable.

- Under Windows 2000, you must be logged on as Administrator or have the appropriate privileges. Open the Control Panel and double-click on the System icon. Click on the Advanced tab, then on the "Environment Variables" button. Create a new system variable, and set it to `C:\ILOG\ILM\ACCESS.ILM`.

Step 3. Check the License File

To make sure that the license file has no syntax errors and that the system variable `ILOG_LICENSE_FILE` is properly set, you should run the executable `ILMCHECK.EXE` found on the installation CD-ROM.

To do this, open an MS-DOS command prompt window. Then, call `ILMCHECK.EXE` from the directory where you have installed ILM using the following command:

```
C:\ILOG\ILM\ILMCHECK.EXE
```

This command issues the following message:

```
Checking license file "C:\ILOG\ILM\ACCESS.ILM"
     License file "C:\ILOG\ILM\ACCESS.ILM" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read section "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing a Token Key

This section describes the steps to install a token key. A token key lets you use a product on a set of machines connected to a network, or on a stand-alone machine. A token key specifies the number of tokens granted, which is the maximum number of simultaneous developers, unless the product documentation says otherwise (for example, in ILOG Server 4.1, the number of tokens is the maximum number of simultaneous connections).

For more information on token counting, see "Token Counting" on page 51.

To be able to grant you a token key, ILOG needs some information on a selected machine of your network. That's why your shipment may not already contain your token key. Steps 1 to 3 explain how to contact ILOG, provide the required information, and get your token key back.

On the other hand, if ILOG already has the required information, your shipment may already include a sheet labelled *Access Key* which contains your token key. In this case, you don't have to follow Steps 1 to 5, and you can skip to Step 6.

> ***Tip:*** *For an easy start up, all ILOG products are shipped with a temporary evaluation license on a separate sheet. If you want to start using this product immediately, and take care of your token license later, see the section* "Installing an Evaluation Key" on page 23. *But don't forget to order your license key quickly!*

Step 1. Choose the Client Using the Token

There are two kinds of tokens:

- Floating tokens. These tokens let you use the product on any machine of your network. If you have purchased such a token, skip steps 1 and 2.
- Fixed tokens. Such tokens let you use the product on one machine only. This machine is called the token client host. You must provide the name of this machine. If you have purchased several fixed tokens, you must repeat the token installation procedure for each machine.

Step 2. Get the Token Client Hostid

Log on to the token client host and open an MS-DOS command prompt window. Then, call `IHOSTID.EXE` from the directory where you have installed ILM using the following command:

```
C:\ILOG\ILM\IHOSTID.EXE
```

This command displays the hostname, hostid, and hostid checksum of your machine.

Here is an example:

```
The hostname of this machine is helios
The hostid of this machine is   6430bd3b
The checksum of this hostid is  03933
```


Step 3. Choose a Host to Run the Token Server

Token keys are managed by an ILM process called the token server. Token keys can only be used if there is a token server running on your network.

First of all, identify the machine on which you will run the token server. This can be any Windows machine on your local network. You can also choose a Unix machine as the server of your local network. In this case, read the Unix section to know how to install the token server. If there is already a token server running on some machine, identify this machine. Otherwise, you must choose one. Try to choose a stable machine—a file server is a common choice. In the rest of this section, the machine you have selected will be called the *token server host*.

The token server host can also be the token client host, typically if you have purchased only one fixed token.

Step 4. Get the Token Server Hostid

Log on to the token server host and open an MS-DOS command prompt window. Then, call `IHOSTID.EXE` from the directory where you have installed ILM using the following command:

```
C:\ILOG\ILM\IHOSTID.EXE
```

This command displays the hostname, hostid and hostid checksum of the machine. An example output would be:

```
The hostname of this machine is    helios
The hostid of this machine is      6430bd3b
The checksum of this hostid is     03933
```

Step 5. Get the Token Key from ILOG

The information displayed by the `ihostid` command must be sent to ILOG to get your token key. To do so, follow the instructions in the *Access Key Request* form.

Step 6. Add the Token Key to the License File

You should do this step once you have received your token key from ILOG. Here is an example of the text you may have received:

```
LICENSE Springfield Computing Inc.
SERVER  3000 helios 6430bd3b 03933
TOKEN   Views   2.400 NEVER    918MK37CCG52 3  pcwin95 , license: 186
```

The `LICENSE` and `SERVER` lines identify your site and token server host. The next line contains the token key. If you have purchased licenses for several products or product components, the text you received may actually contain several token keys.

If the license file does not exist, create one by saving the whole text you received as the license file.

If the license file exists, edit it using your favorite editor. The license file is in `C:\ILOG\ILM\ACESS.ILM`. To do so:

1. Make sure that the LICENSE and SERVER lines are consistent. If one or both of them are not in the license file, insert whichever ones are missing at the beginning of the file. If any of them are present, check that they are identical to the ones you received from ILOG. If they are not, there is a problem. In this case, contact your ILOG sales representative.
2. Append the new key or keys (i.e., the lines after the SERVER line) to the end of the file. If you are replacing an old key with a new one for the same product on the same machine, delete or comment out the line with the old key; to comment out a line, put a "#" in the first column.

Step 7. Set Up the Environment

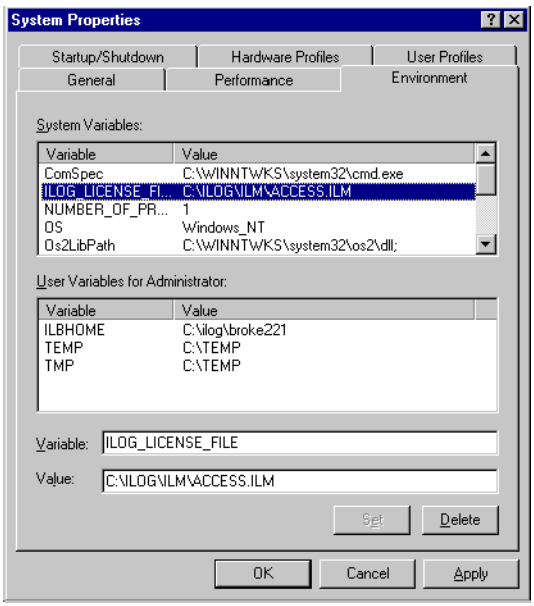
The system variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `ACCESS.ILM` file. To do this:

- Under Windows 95, Windows 98 or Windows Millenium, edit the file `AUTOEXEC.BAT` and add the following line:

  ```
  set ILOG_LICENSE_FILE=C:\ILOG\ILM\ACCESS.ILM
  ```

  To make this change effective, you need to restart your computer.

- Under Windows NT, you must be logged on as an Administrator. Open the Control Panel and double-click on the System icon. In the Environment tab, click somewhere in the System Variables box (for example on the OS). Enter `ILOG_LICENSE_FILE` in the "Variable" text field and enter the correct value in the "Value" field, as shown in the following illustration:



  Click on the "Set" button. This will set a new System Variable.

- Under Windows 2000, you must be logged on as Administrator or have the appropriate privileges. Open the Control Panel and double-click on the System icon. Click on the Advanced tab, then on the "Environment Variables" button. Create a new system variable, and set it to `C:\ILOG\ILM\ACCESS.ILM`.

Step 8. Check the License File

To check that the license file has no syntax errors and that the variable `ILOG_LICENSE_FILE` is properly set, call `ILMCHECK` from the directory where you have installed ILM by typing the following line:

```
C:\ILOG\ILM\ILMCHECK.EXE
```

This command should issue the message:

```
Checking license file "C:\ILOG\ILM\ACCESS.ILM"
     License file "C:\ILOG\ILM\ACCESS.ILM" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read section "Troubleshooting" on page 57 for help.

> ***Note:*** *The client station must have a copy of* `C:\ILOG\ILM\ACCESS.ILM` *or read access to that file.*

Step 9. Install the ILOG License Manager Service

Log on to the server host. On Windows NT and Windows 2000, you should have administrator privileges. Open and MS-DOS command prompt window and install the ILOG License Manager Service by typing the following commands:

```
mkdir C:\TEMP
cd C:\ILOG\ILM
ILMSERV.EXE -install
```

The token server will be automatically started each time rebooting takes place. On Windows 95, Windows 98 or Windows Millenium, you need to restart your computer to launch the service. On Windows NT or Windows 2000, make sure that the service is started by opening the Control Panel and double-clicking on the Services icon. If it is not, select the ILOG License Manager service and click on the Start button.

To remove the service, use the following commands:

```
cd C:\ILOG\ILM
ILMSERV.EXE -remove
```

The log file of the Licence Manager service is `C:\ILOG\ILM\ILM.LOG`. A typical output of this log file is:

```
Apr 24 15:16:59 License Manager v2.6 [pid 28934]
Apr 24 15:16:59 Using license file "C:\ILOG\ILM\ACCESS.ILM"
Apr 24 15:16:59 Licensed to "Springfield Computing Inc."
Apr 24 15:16:59 Tokens for Views on jupiter: 3 pcwinnt
Apr 24 15;16:59 Tokens for Solver: 4 any
```

Step 10. Check the Token Server and the Available Tokens

Call `ILMLIST` from the directory where you have installed ILM by typing the following line:

```
C:\ILOG\ILM\ILMLIST.EXE
```

The command `ILMLIST` will display the server status and the number of available tokens. A typical output of this command would be:

```
Ilmlist v2.60
License file "C:\ILOG\ILM\ACCESS.ILM"
Token server on "asbm01" is UP.

* PRODUCT Server:10 solaris
tokens in use: 5 on solaris
available tokens: 3

USER     HOSTNAMEPID    PLATFORM IN USE SINCE    USAGE
ServUser sol12   31990  solaris  May 22 09:36:40 192.127.05.3121.6
ServUser sol12   31990  solaris  May 22 10:00:30 192.127.05.3121.7
ServUser sol12   31990  solaris  May 22 10:06:34 192.127.05.3121.9
ServUser sol12   31990  solaris  May 22 10:10:55 192.127.05.3121.10
ServUser sol12   31990  solaris  May 22 10:15:23 192.127.05.3121.11
```

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Remember that every ILOG user at your site should set the `ILOG_LICENSE_FILE` environment variable as explained in Step 5.

Installing a Node Key

This section describes the steps to install a node key. A node key lets you use a product on a specific machine.

To be able to provide you with a node key, ILOG needs some information about the machine on which you want to use the product. That's why your shipment may not already contain your node key. Steps 1 and 2 explain how to contact ILOG, provide the required information, and get your node key back.

On the other hand, if ILOG already has the required information, your shipment may already include a sheet labelled *Access Key* which contains your node key. In this case, you don't have to follow Steps 1 and 2, and you can skip to Step 3.

> ***Tip:*** *For an easy start up, all ILOG products are shipped with a temporary evaluation license on a separate sheet. If you want to start using this product immediately, and take care of your node license later, see* "Installing an Evaluation Key" on page 23*. But don't forget to order your license key quickly!*

If you have purchased node keys for different machines, please follow the steps in this section for each machine in turn.

Step 1. Get your Computer Hostid

To get your computer hostid, you should run the executable `IHOSTID.EXE` located on the installation CD-ROM.

To do this, open an MS-DOS command prompt window. Then, call `ILMCHECK` from the directory where you have installed ILM by typing the following line:

```
C:\ILOG\ILM\IHOSTID.EXE
```

This command displays the hostid and hostid checksum of your computer. An example output would be:

```
The hostname of this machine is    helios
The hostid of this machine is      6430bd3b
The checksum of this hostid is     03933
```

Step 2. Get the License Text from ILOG

The information displayed by the `IHOSTID` command must be sent to ILOG to get your node key. To do so, follow the instructions in the *Access Key Request* form.

Step 3. Add the Node Key to the License File

You should do this step once you have received your license from ILOG. Here is an example of what you may have received:

```
LICENSE Springfield Computing Inc.
NODE Views 2.400 NEVER   4RYE61MP4HJ7 1d3c7a9c pcwin95 , license: 186
```

The `LICENSE` line identifies your site. The next line contains the node key. If you have purchased licenses for several products, product parts, or machines, the text you received may actually contain several node keys.

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product on the same machine, delete or comment out the line with the old key; to comment out a line, put a `"#"` in the first column.

Step 4. Set Up the Environment

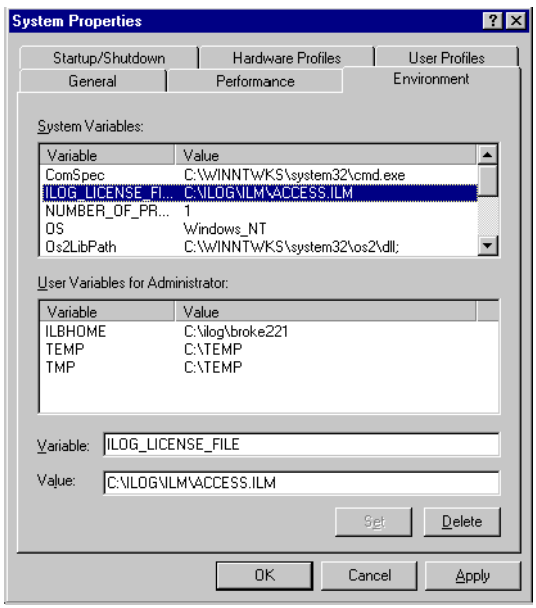
To use ILOG products, the variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `ACCESS.ILM` file. If this variable is already set, you can skip to Step 5. Otherwise:

- Under Windows 95, Windows 98 or Windows Millenium, edit the file `AUTOEXEC.BAT` and add the following line:

  ```
  set ILOG_LICENSE_FILE=C:ILOG\ILM\ACCESS.ILM
  ```

  Now you need to restart your computer to make this change effective.

- Under Windows NT, you must be logged on as an Administrator. Open the Control Panel and double-click on the System icon. In the Environment tab, click somewhere in the System Variables box (for example on the OS). Enter `ILOG_LICENSE_FILE` in the "Variable" text field and enter the correct value in the "Value" field, as shown in the following illustration:



Click on the "Set" button. This will set a new System Variable.

- Under Windows 2000, you must be logged on as Administrator or have the appropriate privileges. Open the Control Panel and double-click on the System icon. Click on the Advanced tab, then on the "Environment Variables" button. Create a new system variable, and set it to `C:\ILOG\ILM\ACCESS.ILM`.

Step 5. Check the License File

To make sure that the license file has no syntax errors and that the system variable `ILOG_LICENSE_FILE` is properly set, you should run the executable `ILMCHECK.EXE`. To do this, do the same as in Step 1, replacing the command `IHOSTID` by the command `ILMCHECK`.

This command should issue the message:

```
Checking license file "C:\ILOG\ILM\ACCESS.ILM"
     License file "C:\ILOG\ILM\ACCESS.ILM" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing a Node Runtime Key

This section describes the steps to install a node runtime key. A node runtime key lets you run an application using an ILOG product on a specific machine.

To be able to provide you with a node runtime key, ILOG needs some information about the machine on which you want to use the product. That's why your shipment may not already contain your node runtime key. Steps 1 and 2 explain how to contact ILOG, provide the required information, and get your node runtime key back.

On the other hand, if ILOG has the required information, your shipment may already include a sheet called *Access Key* which contains your node runtime key. In this case, you don't have to follow Steps 1 and 2, and you can skip to Step 3.

If you have purchased node runtime keys for different machines, please follow the steps in this section for each machine in turn.

Step 1. Get your Computer Hostid

To get your computer hostid, you should run the executable `IHOSTID.EXE` located on the installation CD-ROM.

To do this, open an MS-DOS command prompt window. Then, call `ILMCHECK` from the directory where you have installed ILM by typing the following line:

```
C:\ILOG\ILM\IHOSTID.EXE
```

This command displays the hostid and hostid checksum of your computer. An example output would be:

```
The hostname of this machine is    helios
The hostid of this machine is      6430bd3b
The checksum of this hostid is     03933
```

Step 2. Get the License Text from ILOG

The information displayed by the `IHOSTID` command must be sent to ILOG to get your node key. To do so, follow the instructions in the *Access Key Request* form.

Step 3. Add the Node Runtime Key to the License File

You should do this step once you have received your license from ILOG. Here is an example of what you may have received:

```
LICENSE Springfield Computing Inc.
RTNODE Views 2.400 NEVER 4RYE61MP4HJ7 1d3c7a9c pcwin95 , license: 186
```

The `LICENSE` line identifies your site. The next line contains the node runtime key. If you have purchased licenses for several products, product parts, or machines, the text you received may actually contain several node runtime keys.

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product on the same machine, delete or comment out the line with the old key; to comment out a line, put a `"#"` in the first column.

Step 4. Set Up the Environment

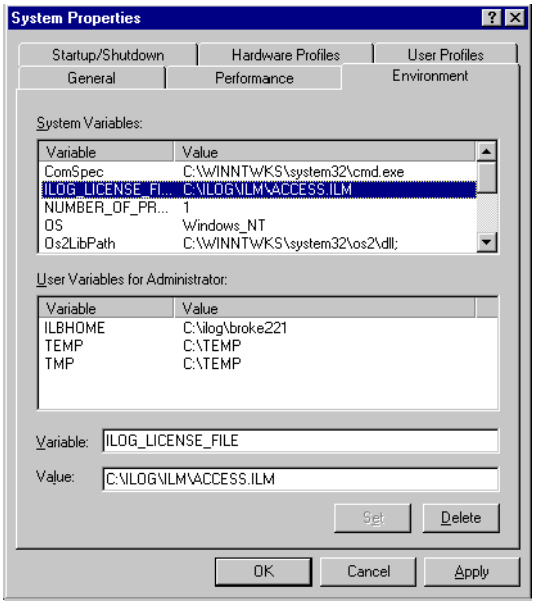
To use ILOG products, the system variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `ACCESS.ILM` file. If this variable is already set, you can skip to Step 5. Otherwise:

- Under Windows 95, Windows 98, or Windows Millenium, edit the file `AUTOEXEC.BAT` and add the following line:

  ```
  set ILOG_LICENSE_FILE=C:ILOG\ILM\ACCESS.ILM
  ```

  Now you need to restart your computer to make this change effective.

- Under Windows NT, you must be logged on as an Administrator. Open the Control Panel and double-click on the System icon. In the Environment tab, click somewhere in the System Variables box (for example on the OS). Enter `ILOG_LICENSE_FILE` in the "Variable" text field and enter the correct value in the "Value" field, as shown in the following illustration.



Click on the "Set" button. This will set a new System Variable.

- Under Windows 2000, you must be logged on as Administrator or have the appropriate privileges. Open the Control Panel and double-click on the System icon. Click on the Advanced tab, then on the "Environment Variables" button. Create a new system variable, and set it to `C:\ILOG\ILM\ACCESS.ILM`.

Step 5. Check the License File

To make sure that the license file has no syntax errors and that the system variable `ILOG_LICENSE_FILE` is properly set, you should run the executable `ILMCHECK.EXE`. To do that, do the same as in Step 1, replacing the command `IHOSTID` by the command `ILMCHECK`.

This command should issue the message:

```
Checking license file "C:\ILOG\ILM\ACCESS.ILM"
     License file "C:\ILOG\ILM\ACCESS.ILM" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If the previous steps have been successfully carried out, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing a Site Key

This section describes the steps to install a site key. A site key lets you use a product on any machine of a site. It must be individually installed on every machine.

Your shipment includes a sheet named *Access Key* which contains a text which looks like:

```
LICENSE Springfield Computing Inc.
SITE   Views     2.400 NEVER    918MK37CCG52 Y pcwin95 , license: 186
```

The `LICENSE` line identifies your site. The next line contains your site key. If you have purchased licenses for several products or product components, the text may actually contain several site keys.

Step 1. Create or Edit the License File

Unless it already exists, save the whole text you received as the license file.

If the license file already exists, edit it using your favorite editor. This file must already contain a `LICENSE` line identical to the one you received. If it is not the case, contact your ILOG sales representative. Append the new key or keys to the end of the file. If you are replacing an old key with a new one for the same product, delete or comment out the line with the old key; to comment out a line, put a "`#`" in the first column.

Step 2. Set Up the Environment

To use ILOG products, the system variable `ILOG_LICENSE_FILE` must be set to the absolute path of the `ACCESS.ILM` file.

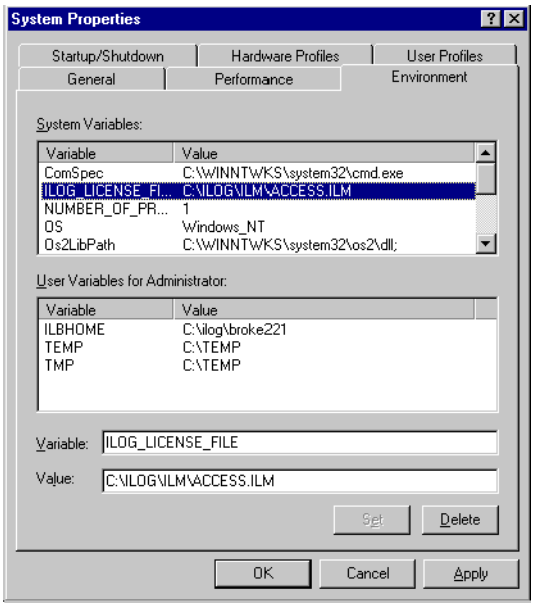
To do this carry out one of the following:

- Under Windows 95, Windows 98 or Windows Millenium, edit the file `AUTOEXEC.BAT` and add the following line:

  ```
  set ILOG_LICENSE_FILE=C:\ILOG\ILM\ACCESS.ILM
  ```

  To make this change effective you have to restart your computer.

- Under Windows NT, you must be logged on as an Administrator. Open the Control Panel and double-click on the System icon. In the Environment tab, click somewhere in the System Variables box (for example on the OS). Enter `ILOG_LICENSE_FILE` in the "Variable" text field and enter the correct value in the "Value" field, as shown in the following illustration:



  Click on the "Set" button. This will set a new System Variable.

- Under Windows 2000, you must be logged on as Administrator or have the appropriate privileges. Open the Control Panel and double-click on the System icon. Click on the Advanced tab, then on the "Environment Variables" button. Create a new system vairable, and set it to `C:\ILOG\ILM\ACCESS.ILM`.

Step 3. Check the License File

To make sure that the license file has no syntax errors and that the system variable `ILOG_LICENSE_FILE` is properly set, you should run the executable `ILMCHECK.EXE`.

To do this, open an MS-DOS command prompt window. Then, call `ILMCHECK.EXE` from the directory where you have installed ILM using the following command:

```
C:\ILOG\ILM\ILMCHECK.EXE
```

This command issues the following message:

```
Checking license file "C:\ILOG\ILM\ACCESS.ILM"
     License file "C:\ILOG\ILM\ACCESS.ILM" is correct
```

Otherwise, something is wrong with the license file or with the setting of `ILOG_LICENSE_FILE`. Please read "Troubleshooting" on page 57 for help.

Where to Go from Here?

If you have successfully completed the previous steps, you can start using your ILOG product. Please refer to the product document set for further instructions.

Installing a Runtime Key

A runtime key is provided by ILOG for an application which uses one or more ILOG products. You cannot use a runtime key for development; only token, site and node keys can be used for development. A runtime key can only be used for final testing and delivery.

Unlike other keys, runtime keys are not stored in the license file. A runtime key is directly hard-coded in your application, which makes it completely stand-alone with respect to the ILOG license manager and allows you to run it on a host without a license file.

A runtime key is provided by ILOG as a piece of C++ code. Here is an example of a runtime key:

```
static char *ilm_Views_license =
"LICENSE Springfield Computing Inc.\n\
RUNTIME  View 2.400  NEVER  FY7HAJ09UEHA  Y solaris , license: 180 ";
static int ilm_Views_license_signature = 816213 ;
```

This code declares an `ilm_Views_license` variable and initializes it to a multi-line string. This string has the same structure as a license file. The first line (`LICENSE`) contains a short text describing your site. The next line contains your runtime key for one product with the following format:

- Field 1: The keyword `RUNTIME`.
- Field 2: The product name.
- Field 3: The product version number.
- Field 4: The expiration date of the key, or `NEVER` for permanent keys.
- Field 5: A password validating the information in the key.
- Field 6: Either “Y” or “N” to specify whether or not a banner is to be printed when the license is registered.
- The next fields contain the list of platforms for which the key is valid. If no platform is specified, the key is valid for any platform.
- An additional field can be appended. This field, which begins with “`, options:`” specifies the options activated in the product. Refer to the product documentation for explanations on the meaning of these options.
- Another additional field can be appended. This field, which begins with “`, license:`” specifies the license rights which are supported by the current key. Refer to your ILOG sales representative for an explanation on the meaning of the licensed rights.

This code also declares an `ilm_Views_license_signature` variable and initializes it with an integer signature corresponding to the `ilm_Views_license` variable.

No information in the runtime key should be modified. Changing any information invalidates the password and the key cannot be used. This includes the site description on the

LICENSE line and the banner Y/N field.

To install the runtime key, please follow the steps below.

Step 1. Declare the ilm_license variable in the application main file

Edit the application source file which contains the `main()` function. Then, copy the declaration of the `ilm_Prod_license` variables provided by ILOG to the top level of this file.

When copying the license string, you should remember that case is significant. Also, don't forget the "\n\" character sequence at the end of every non-final line.

The number of spaces or tabulations between fields is not significant, but the `LICENSE` or `RUNTIME` keyword must be in the first column, with no preceding white space.

Step 2. Add calls to the license registration functions

Every ILOG product provides a license registration function which you must call when your application starts, by passing the corresponding `ilm_Prod_license` string and `ilm_Prod_license_signature` integer as its arguments. This will enable your application to use the product, unless the function returns a non-null value.

In some older versions of ILOG products, the license registration function accepts only one argument. In this case, you only need to provide the `ilm_Prod_license` information.

A product registration function is named *xxx*`RegisterLicense`, where *xxx* is the prefix used by the product. This function is declared in the product header file <*ddd*`/ilm.h`>, where *ddd* is the product include directory. For example, the registration function for ILOG Views is named `IlvRegisterLicense` and is declared in `<ilviews/ilm.h>`, while the registration function for Solver is named `IlcRegisterLicense` and is declared in `<ilsolver/ilm.h>`.

Some ILOG products share their function name prefix. For example, both ILOG Solver and ILOG Scheduler use the prefix `Ilc`. In this case, to avoid name collision, one of these products provides a registration function which is not named after the `xxxRegisterLicense` scheme. You have to read the file `ilm.h` in the `include` directories of these products to find out the name of their registration functions.

For every ILOG product used by your application, add a call to the product registration function near the beginning of the `main()` function of your application, and abort if it does not return 0. For example, if your application is using ILOG Views and Solver, the main file of your application should look like this, including the changes made in step 1:

```
#include <ilviews/ilm.h>
#include <ilsolver/ilm.h>

static char *ilm_Views_license =
"LICENSE Springfield Computing Inc.\n\
RUNTIME  Views   2.400  NEVER    FY7HAJ09UEHA  Y solaris , license: 111";
```

```
static int ilm_Views_license_signature = 816213 ;
static char* ilm_Solver_license = "LICENSE Springfield Computing Inc.\n\
RUNTIME  Solver     4.000  01-May-1999 3J767DSF8SDF  N , license: 112";
static int ilm_Solver_license_signature = 9127 ;

int main(int argc, char *argv[])
{
 if(IlvRegisterLicense(ilm_Views_license, ilm_Views_license_signature))
    exit(-1);
 if(IlcRegisterLicense(ilm_Solver_license, ilm_Solver_license_signature)
    exit(-2);
 ...
}
```

Step 3. Verify the runtime key

To verify the runtime key, rebuild your application with the modified main file. Then, rename your license file `access.ilm` to some other name. This file is found in the subdirectory `ilm` of your ILOG installation directory. Finally, start your application.

If the test for key registration fails, your runtime key is not valid; in this case, check step 1—in particular:

- Look for typing errors in the text. A typical mistake is to type “O” (a capital O) instead of “`0`” (zero). Also, remember that case is significant.
- Check that you didn’t forget a “`\n\`” sequence at the end of a line.
- Check that the `LICENSE` and `RUNTIME` keywords are not preceded by any white space and start at the first column.

If ILM generates an error message, it can be for the following reasons:

- You did not register a runtime key with the key registration function of the corresponding product. Check that you have used the right prefix.
- Your runtime key does not grant you access to the appropriate product functionalities. Please contact your ILOG support service.
- You runtime key has expired.
- The key is not yet registered when the errror message was issued. Due to static initialization in C++, this can be the case even if you registered the key in `main()`. To check this, simply insert a `printf()` command before the key registration.

C H A P T E R

2

ILM in Depth

This chapter gives you in-depth information on ILM 2.6.

When you start an ILOG product, ILM searches for an *access key* that lets you run this product. An access key, or *key* for short, is a line of text containing user information about the product and its conditions of use, plus a password which validates this information. Access keys are stored in a file called the *license file*. The section "Managing License Files" on page 46 describes the license file format and explains how to add access keys to a license file.

The next two sections, "ILM Commands on Unix" on page 53 and "ILM Commands on Windows" on page 55 address topics that are specific to these platforms. You only need to read the section concerning your platform.

Finally, "Troubleshooting" on page 57 lists common problems encountered on the various platforms and the appropriate action you should take.

Managing License Files

A license file is a regular text file containing access keys which grant you permission to use ILOG products. When you purchase a product or start an evaluation of a product, ILOG provides you with an access key for this product. To use the product, you have to create a license file containing this key or, if you already have a license file for other ILOG products, you have to add the new key to your license file. This section describes the format of license files and explains how to add access keys to a license file.

License files are meant to hold evaluation keys, development keys, or node runtime keys. Development keys include token keys, node keys and site keys. Deployment keys include runtime node keys and runtime keys. You cannot use a runtime key for development; only token, node and site keys can be used for development.

The ILOG_LICENSE_FILE Environment Variable

If the environment variable `ILOG_LICENSE_FILE` is not set, ILM looks for a license file named:

- On Unix:

  ```
  /usr/ilog/ilm/access.ilm
  ```

- On Windows:

  ```
  C:\ILOG\ILM\ACCESS.ILM
  ```

If your license file is not at this location, or if you want to use several license files, you need to set the environment variable `ILOG_LICENSE_FILE`. If you have one license file (which is usually the case), set `ILOG_LICENSE_FILE` to its full path. If you have several license files, set `ILOG_LICENSE_FILE` to the list of their paths separated with a colon, on Unix, and with a semi-colon on Windows. For example:

- On Unix, in Bourne Shell syntax:

  ```
  ILOG_LICENSE_FILE=/home/joe/foo.ilm:/home/bill/bar.ilm
  export ILOG_LICENSE_FILE
  ```

- On Unix, in C-Shell syntax:

  ```
  setenv ILOG_LICENSE_FILE /home/joe/foo.ilm:/home/bill/bar.ilm
  ```

- On Windows:

  ```
  set ILOG_LICENSE_FILE=C:\HOME\JOE\FOO.ILM;C:\HOME\BILL\BAR.ILM
  ```

The ILOG_LICENSE_FILE variable must be defined in the environment of any user running ILOG licensed products and in the environment of the ILM token server, if any.

License File Syntax

The following rules apply to license files:

- The file must have exactly one line beginning with “LICENSE”.
- The file must have at most one line beginning with “SERVER”.
- Case is significant. Except for comment lines and spaces, all texts must be typed strictly as provided.
- Access keys must start at the first column; no white space is allowed before the key.
- Access key fields can be separated by any number of spaces or tabulations.
- There must be no empty or blank lines.
- The last line must end with a newline character and/or a carriage return character.
- Comment lines have a “#” in the first column.

> ***Warning:*** *License files must be edited and saved in text format. If you are using Notepad to edit files, this is automatic. If you are using another text editor such as WordPad, you must select the text format option when saving a license file. To check that your file is saved in text format, open an MS-DOS command prompt window and type the following:*
>
> ```
> TYPE C:\ILOG\ILM\ACCESS.ILM
> ```
>
> *Also, beware that some editors will automatically append the extension* .txt *to your file. Furthermore, Windows Explorer may hide this extension. To determine which is the real extension of the file you created, open an MS-DOS command prompt window ant type the following:*
>
> ```
> DIR C:\ILOG\ILM
> ```
>
> *If the extension is wrong, rename your file in that window. For example, type the following:*
>
> ```
> CD C:\ILOG\ILM
> REN access.ilm.txt access.ilm
> ```

A license file contains two logical sections: a site section, which describes the user site, and a key section, which contains the keys purchased for this site. Here is an example of a license file:

```
# This is a comment
# site section
LICENSE Springfield Computing Inc.
SERVER  3000 helios 6430bd3b 03933
# key section
EVAL      Scheduler 5.000     01-Jun-2001 EG7JA4ZND0X8 any , license: 186
NODE      Solver    4.000    NEVER    1NNF00A60ACN     421e028a pcwin95 , license: 187
SITE      Rules     5.000    NEVER    FY7HAJ09UEHA     Y solaris , license: 188
TOKEN     Views     2.400    NEVER    87SDFSDF7687     10 solaris , license: 187
RTNODE    Rules     5.000    NEVER    FAG2361UB798     123ab1fc any , license: 189
TOKEN     DbLink    2.000    NEVER    EIRENRENVRRN     5 solaris on 6430db3b helios , license: 190
NODE      CPLEX     5.500    NEVER    OKE3987VGO4M     77 pcwin95, options: e m , license: 187
```

Site Section

A full site section contains two lines, respectively starting with the `LICENSE` and `SERVER` keywords. Depending on the type of keys the file contains, the `SERVER` line or both lines can be absent, as specified in the next section.

The `LICENSE` line contains a short text describing the site. This description is used in the banner which is displayed when an application is launched. Changing this text invalidates the keys in the license file.

The `SERVER` line specifies, in the following order:

- The TCP/IP port number used by the token server. This port number can be freely changed.
- The hostname of the machine running the token server. This name can be freely changed.
- The hostid of the machine running the token server. Changing this information invalidates keys of type `TOKEN`.
- The checksum of the hostid. This information is currently not used by ILM and can be set to any five-character string.

Key Section

The key section can contain any number of access keys with the following format:

- Field 1: Key type: One of `EVAL`, `NODE`, `SITE`, `TOKEN` and `RTNODE`.
- Field 2: Name of the product. For `EVAL` keys, this can be "`*`".
- Field 3: Version number of the product. Only the first part is significant: A key for version 2.3 is also valid for version 2.4, but not any more for version 3.0. You must not change this number.
- Field 4: Expiration date of the key, or `NEVER` for permanent keys.
- Field 5: A password validating the information in the key.

The meaning of other fields depends on the key type. Key types are:

- `EVAL`: Evaluation key. The product can be used on any host of the specified platform until the key expires. If the second field contains a "`*`", the key is valid for all ILOG products. Platforms are specified in the optional 7th field.
- `NODE`: Node key. The product can be used only on the host whose hostid is specified in the sixth field of the key. A license file can contain several `NODE` keys for the same product. An optional 7th field specifies the platform on which the license can be used (e.g. `pcwinnt pcwin95`).
- `RTNODE`: Node runtime key. The application using the product can be used only on the host whose hostid is specified in the sixth field of the key. A license file can contain several `RTNODE` keys for the same product. A 7th optional field specifies the platform on which the license can be used (e.g. `pcwinnt`, `pcwin95`)
- `SITE`: Site key. The product can be used on any host. The sixth field can be "`Y`" or "`N`" and specifies whether or not a banner is to be printed when the product is launched. Changing this information invalidates the password and the key cannot be used. The next fields, if any, contain the list of platforms for which the key is valid. If no platform is specified, the site key is valid on all platforms.
- `TOKEN`: Token key. The number of available tokens and their respective platforms are specified in the sixth field of the line. For fixed tokens, the sixth field also contains the hostid and the hostname of the token client host. A token key requires a token server running on your network or on your machine. For information on token usage, refer to section "Token Counting" on page 51.

  Token keys can only be used with TCP/IP installed.

An additional field can be appended. This field, which begins with "`, options:`" specifies the options activated in the product. Refer to the product documentation for explanations on the meaning of these options.

Another additional field can be appended. This field, which begins with "`, license:`" specifies the license rights which are supported by the current key. Refer to your ILOG sales representative for an explanation on the meaning of the licensed rights.

> ***Note:*** *No information in a key should be modified. Changing any information, such as the expiration date, the product version or the number of tokens, invalidates the password and makes the key unusable.*

When the same key type is repeated for a product, only the last key valid for this machine is taken into account, except that a fixed token has priority over a floating token. All types of keys for the same product can be mixed in a license file. The order in which keys are used is:

- `RUNTIME`
- `EVAL`

- NODE
- RTNODE
- SITE
- TOKEN

Table 1 specifies which information in the site section is required depending on the key type.

Table 1 *Site Information Requirements for Access Keys*

Key type	Needs a LICENSE line	Needs a SERVER line
EVAL	Yes	No
NODE	Yes	No
RTNODE	Yes	No
SITE	Yes	No
TOKEN	Yes	Yes

Table 2 specifies the hardware and operating system configuration supported by every platform mentioned in the key.

Table 2 *Hardware and OS Correspondence by Platform*

Hardware	Operating System Version	ILM platform name
Sun SPARC	SunOS 4.x	sun4
Sun SPARC	Solaris 2.x, 7, 8	solaris
HP 9000/7xx and 8xx	HP/UX 9 or higher	hp9700
IBM RS6000	AIX 3 or higher	rs6000
Silicon Graphics	IRIX 5 or higher	irix5
Dec Alpha	OSF/1 version 3.2 or higher	alphaosf
PC Intel	Linux 1 or higher	linux
PC Intel	Solaris 2.x, 7, 8	x86solaris
PC Intel	QNX	i86qnx
PC Intel	Windows 95 / Windows 98	pcwin95
PC Intel	Windows NT / Windows 2000	pcwinnt
PC Alpha	Windows NT / Windows 2000	alphant
Siemens Nixdorf	Sinix 5.43	rmsinix

Token Counting

Generally, each token key authorizes a specific number of tokens. Depending on the product and its version, counting can mean different things. For example, in ILOG Server 4.1, one token is required for each connection, and the Usage column of the `ilmlist` command output lists the connection id. If your product documentation does not define how to count tokens, then one token is required for each user of each machine, and the Usage column remains blank in the `ilmlist` (or `ilmlist.exe`) command output.

In the following example, each ILOG Server connection (e.g. `192.127.05.3121.6`) is authorized by one specific token. As there are currently 5 connections, 5 tokens are being used. Only five tokens can be used freely by any given user.

For example, Joe runs 2 ILOG Views 3.1 processes on the machine `sol78`. ILOG Views 3.1 documentation does not specify token counting. Therefore, the token is assigned to the machine hostname. Liz uses one token and Bob uses another. As a result, the three tokens can be used freely.

Here is the `ilmlist` command output corresponding to these two cases:

```
Ilmlist v2.60
License file "/usr/ilog/ilm/access.ilm"
Token server on "asbm01" is UP.

* PRODUCT Server: 10 solaris
tokens in use: 5 on solaris
available tokens: 5

USER     HOSTNAMEPID    PLATFORM IN USE SINCE    USAGE
ServUser sol12   31990  solaris  May 22 09:36:40 192.127.05.3121.6
ServUser sol12   31990  solaris  May 22 10:00:30 192.127.05.3121.7
ServUser sol12   31990  solaris  May 22 10:06:34 192.127.05.3121.9
ServUser sol12   31990  solaris  May 22 10:10:55 192.127.05.3121.10
ServUser sol12   31990  solaris  May 22 10:15:23 192.127.05.3121.11

* PRODUCT Views: 4 solaris irix5, 2 pcwin95 pcwinnt
tokens in use: 2 on solaris, 1 on irix5
available tokens: 3

USER     HOSTNAMEPID    PLATFORM IN USE SINCE    USAGE
joe      sol78   4561   solaris  May 22 10:26:34
joe      sol78   4602   solaris  May 22 10:31:30
liz      sol74   4605   solaris  May 22 10:49:05
bob      iri78   5003   irix     May 22 10:59:01
```

Adding New Keys to a License File

When you purchase a product or start a product evaluation, ILOG sends you the text of a license file containing the corresponding access key.

If you don't already have a license file, you have to create one and put the text you have received into it.

If you already have a license file, you have to merge the new license file into it. First, check whether the site sections in the two license files match. Two site sections match if their site description (`LICENSE` line) and the token server hostid (the string in the fourth field of the `SERVER` line) are identical; other site information is not significant.

Here are the cases:

- The site description and the server hostid match. This is the most common case. Just append the new keys to the end of your license file. If you are replacing old keys with new ones for the same products, delete or comment out the old keys using the # character.
- The new site description or the server hostid do not match yours. In this case, you need to create a new license file and put the whole text you have received into it. Add the path of the new license file to the `ILOG_LICENSE_FILE` environment variable, as explained in "The ILOG_LICENSE_FILE Environment Variable" on page 46.

  If the server hostid does not match, you will also have to start a token server on the corresponding machine.
- Common information in the site section matches, but the new license file contains more information than yours. For example, the new license file contains a `SERVER` line but yours does not. Add the missing line(s) to your license file at the appropriate place, then add the new keys as explained in case 1.
- Common information in the site section match, but your license file contains more information than the new license file. For example, your license file contains a `SERVER` line but the new license file does not. In this case, just add the new keys as explained in case 1.

ILM Commands on Unix

This section describes ILM commands on Unix platforms.

The ILOG license manager files are found in the subdirectory `ilm` of the ILOG installation directory. For example, if the License Manager installation directory is `/usr/ilog`—the default—then the ILM directory is `/usr/ilog/ilm`.

Summary of ILM Commands

The ILM directory contains the following commands:

`ilmd`	Runs the token server
`ihostid`	Prints the current host identification
`ilmcheck`	Checks for syntax errors in the license files
`ilmlist`	Shows token server status and available tokens

These commands are actually shell scripts which automatically determine the type of the current machine and run a binary executable in the appropriate platform-specific subdirectory. For example, on a Sun SPARC running Solaris 2.x, the shell script `ihostid` runs the executable `solaris/ihostid`.

> ***Note:*** *ILM must be installed like any other product. See the CD-ROM booklet or the installation sheet for information on how to do so.*

The ilmcheck Command

Syntax: `ilmcheck [ -v ] filename` ...

This command checks whether the license files given as arguments are correct. Without arguments, `ilmcheck` checks the default file `/usr/ilog/ilm/access.ilm` or the files specified by `ILOG_LICENSE_FILE` if this variable is defined.

The `ilmcheck` command detects syntax errors, expired keys, duplicate lines, incorrect hostids, and so on.

With the `-v` option, `ilmcheck` prints the ILM version number, and shows the checked licenses.

The ihostid Command

Syntax: `ihostid`

This command displays the current host's hostname, hostid, and hostid checksum.

The ilmd Command

Syntax: `ilmd [ -v ] filename ...`

This command runs the token server. The token server must be run before any product using token keys. The other types of keys do not require a token server.

The filename arguments specify the license files to use. With no arguments, `ilmd` uses the default file `/usr/ilog/ilm/access.ilm` or the files specified by the shell variable `ILOG_LICENSE_FILE` if this variable is defined.

The `-v` option enables verbose mode.

You do not need to be super-user to run the token server (see the note to HP/UX users below). The token server and the product using the token keys are system-independent. For example, you can run the token server on an HP/UX machine and the ILOG product on a SunOS machine.

Since the token server must be running permanently, it is good practice to put a command launching `ilmd` in the shell script which is executed when the token server host boots.

> ***Note to HP/UX Users:*** *On HP/UX, an* `ilmd` *invocation in* `/etc/rc` *must be preceded by* `nohup`:
> `nohup /usr/ilog/ilm/ilmd ...`

The ilmlist Command

Syntax: `ilmlist`

The `ilmlist` command shows the token server status, the number of available tokens, as well as the tokens checked out, reserved and queued by users.

ILM Commands on Windows

This section describes ILM commands on Windows 95, Windows 98, Windows Millenium, Windows NT, and Windows 2000 platforms.

Summary of ILM Commands

ILM commands are:

`ilmd.exe`	Runs the token server
`ihostid.exe`	Prints the current host identification
`ilmcheck.exe`	Checks for syntax errors in the license files
`ilmlist.exe`	Shows token server status and available tokens
`ilmserv.exe`	Installs or removes ILM service

To run an ILM command, you must start a MS-DOS command prompt window.

ILM commands are found on the installation CD-ROM of any ILOG product. You need to install ILM using the procedure described in the CD-ROM booklet.

The ilmcheck Command

Syntax: `ilmcheck [ -v ] filename` ...

This command checks whether the license files given as arguments are correct. Without arguments, `ilmcheck` checks the default file `C:\ILOG\ILM\ACCESS.ILM` or the files specified by `ILOG_LICENSE_FILE` if this variable is defined.

The `ilmcheck` command detects syntax errors, expired licenses, duplicate lines, incorrect hostids, and so on.

With the `-v` option, `ilmcheck` prints the ILM version number and shows the checked licenses.

The ihostid Command

Syntax: `ihostid`

This command displays the current host's hostname, hostid, and hostid checksum.

> ***Warning:*** *The hostid of a machine changes when its hard disk is reformatted. This invalidates any previous licenses. If you reformat the hard disk of your machine, you need to get its new hostid and contact ILOG to get new licenses for your products.*

The ilmd Command

Syntax: `ilmd [ -v ] filename ...`

This command runs the token server. The token server must be running before any product using token keys. The other types of keys do not require a token server.

The filename arguments specify the license files to use. With no arguments, `ilmd` uses the default file `C:\ILOG\ILM\ACCESS.ILM` or the files specified by `ILOG_LICENSE_FILE` if this variable is defined.

The `-v` option enables verbose mode.

Note: *On Windows 95, Windows 98, and Windows Millenium, the TCP/IP package must be installed.*

The ilmlist Command

Syntax: `ilmlist`

The `ilmlist` command shows the token server status, the number of available token licenses, as well as the token licenses checked out, reserved and queued by users.

Note: *On Windows 95, Windows 98, and Windows Millenium, the TCP/IP package must be installed.*

The ilmserv Command

Syntax: `ilmserv [-install | -remove]`

The `ilmserv` command installs or removes the service that launches `ilmd` on Windows NT and Windows 2000. You can check whether the service has been installed through the Service panel.

On Windows 95, Windows 98, and Windows Millenium, `ilmd` is added to or removed from the startup registry so that it runs automatically when starting the computer.

Warning: *Do not call* `ilmserv` *with no argument.*

Troubleshooting

This section lists error messages produced by ILM and the appropriate action you should take.

The ilmcheck Command

The following checklist may be used when the command `ILMCHECK` doesn't issue the expected message:

- Look for typing errors in the license file. A typical mistake is to type "O" (a capital O) instead of "`0`" (zero). Also, remember that case is significant.
- Check that the last line of the license file ends with a newline.
- Check that the license file contains no empty or blank lines.
- Check that all access keys start at the first column.
- Check the spelling of the shell variable. A typical mistake is to use `ILOG_LICENCE_FILE`, with two Cs, instead of `ILOG_LICENSE_FILE`.
- Check that the path contained in the variable `ILOG_LICENSE_FILE` points to the right file. In particular, the prefix `C:\ILOG\ILM` must be replaced with the actual installation directory.
- If you are adding a new key to an existing license file, check that the `LICENSE` line in the text you received and the `LICENSE` line in the original license file, if any, match exactly. If they don't match, please contact your ILOG sales representative.
- Check that the license file has been saved in Text format.
- On Windows, check that the license file does not have an extra `.txt` extension. To do so, open an MS-DOS command prompt window and type `DIR C:\ILOG\ILM`

Error messages

Here's the list of error message that can be generated:

cannot connect to token server on "host"

The licensed product cannot reach the token server running on the *`host`* specified on the `SERVER` line of your license file.

- The machine *`host`* is down or unreachable, or the name `host.domain` is required. To check this, run the following command:

  On Unix: `$ /usr/etc/ping host`

On Windows: `ping host`

- There is no token server process running on *host*. On this machine, look for error messages and warnings in the log file of the License Manager (usually `C:\ILOG\ILM\ILM.LOG` or `usr/ilog/ilm/ilm.log`). Refer to the sections "Installing a Token Key" on page 10 and on page 26 for more information. A common source of problems on Windows is that the directory `C:\TEMP` does not exist or is periodically emptied.

invalid password "XXX" in "file"; run ilmcheck

The password *XXX* in the license file named *file* is incorrect. One of the following cases then applies:

- The password has a typing error. A typical mistake is to type "O" (a capital O) instead of "0" (zero). Also remember that case is significant.
- Some information in the key does not match the password. This information could be the expiration date, the number of tokens, the product name or version, the site name, etc.

Check the key in the license file against the original text provided by ILOG. Also check that you are not using a `RUNTIME` key in a license file.

invalid expiration date "date" in "file"; run ilmcheck

The expiration date in the license file named *file* is incorrect. The date format is dd-Mmm-yyyy, where Mmm is a three-letter English abbreviation for the month.

no license available

The licensed product cannot be run because doing so would exceed the number of allowed simultaneous users. To see the number of available tokens, as well as tokens checked out, reserved by users, use the `ilmlist` command:

On Unix: `$ /usr/ilog/ilm/ilmlist`

On Windows: `C:\ILOG\ILM\ILMLIST.EXE`

wrong hostid, expected "hostid1", found "hostid2": run ihostid

This error message occurs in two cases:

- When you try to start the token server `ilmd` on a host which is not the token server host specified on the `SERVER` line of the license file. You must log on to the host with hostid *hostid1* to start the token server.
- When trying to run a licensed product protected by a node key which has been set up for another host. You can run this product only on the machine with hostid *hostid1*.

On Windows, the hostid of a machine changes when its hard disk is reformatted. If your hard disk has been reformatted since you have received your key, you should contact ILOG to get a new key.

To print the hostid of a host, use the `ihostid` command.

access key has expired

The licensed product cannot be run because the key has expired. Please contact your ILOG sales representative.

warning: cannot get hostid : /dev/lan0 is unreadable

This error occurs on HP/UX platforms when `/dev/lan0` is not readable.

> ***Note to HP/UX users (version 10.00 to version 10.20):*** *On HP/UX, ILM needs read permission on the file* `/dev/lan0`*. You need to grant read permission on this file for all users. To do this, log on as root and type the following command:*
> `$ chmod 644 /dev/lan0`

license file not found or unreadable; run ilmcheck

The license file in `ILOG_LICENSE_FILE` does not exist or is unreadable. Check the contents of this variable.

On Windows, check that the file has no `.txt` extension. To do so, type in an MS-DOS command prompt window `"DIR access.ilm"`.

> ***Warning:*** *License files must be edited and saved in text format. If you are using Notepad to edit files, this is automatic. If you are using another text editor such as WordPad, you must select the text format option when saving a license file.*
> *To check that your file is saved in text format, open an MS-DOS command prompt window and type the following:*
> `TYPE C:\ILOG\ILM\ACCESS.ILM`
> *Also, beware that some editors will automatically append the extension* `.txt` *to your fie. Furthermore, Windows Explorer may hide this extension. To determine which is the real extension of the file you created, open an MS-DOS command prompt window ant type the following:*
> `DIR C:\ILOG\ILM`
> *If the extension is wrong, rename your file in that window. For example, type the following:*
> `CD C:\ILOG\ILM`
> `REN access.ilm.txt access.ilm`

no access key found for this product; run ilmcheck

The licensed product cannot be run because there is no access key for it. Check whether

ILOG_LICENSE_FILE points to the right license file.

runtime key not supported in license file

Your license file contains a runtime key—a key beginning with the keyword RUNTIME. Unlike other keys, a runtime key cannot be stored in the license file: you must hard-code it directly in your application. This is explained in the section "Installing a Runtime Key" on page 41; please read it carefully. To use your runtime key, you will have to copy it to your application main source file as the initialization value for the ilm_Prod_license variable. When doing this:

- Don't forget to also copy the LICENSE line of your license file;
- Add a sequence "\n\" at the end of every non-final line in the license string.

Then change the source of the main() function to use the new registration protocol.

lockfile erased or modified. Server exiting

On Unix, ilmd uses a lock file /usr/tmp/ilm_lock in order to avoid having two servers running on the same machine.

Check if a crontab does not remove files in /usr/tmp (or /tmp if /usr/tmp is linked to it).

On Windows NT, the lock file used is C:\temp\ilm_lock. Verify that this file has not been removed.